

PRIVATE LAND TECHNICAL ASSISTANCE

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PRIVATE LAND TECHNICAL ASSISTANCE CONTACT INFORMATION:

Joe Weigand Private Land Wildlife Specialist Landowner/Sportsman Relations Section joweigand@mt.gov/444-3065



In 2006, through the cooperative efforts of Anaconda area sportsmen, nearby landowners and Fish, Wildlife & Parks, barbed-wire fence on bighorn sheep winter range was replaced with four strands of barbless wire constructed to wildlife friendly specifications.

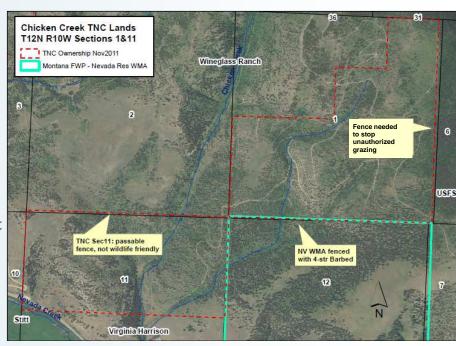


FY13 PRIVATE LAND TECHNICAL ASSISTANCE PROJECTS

The following technical assistance projects have been initiated to promote the successful coexistence of wildlife and agriculture. The projects emphasize local involvement, partnership approaches, cost-sharing, innovation, prevention and proactive solutions to agricultural/wildlife conflicts.

1. TNC Chicken Creek Fence Replacement (Region 2):

This is an ongoing project that was initiated in coordination with Region 2 staff to stop unauthorized livestock grazing and install wildlife friendly fence on a property that provides critical deer and elk winter range. New fence will be all 3-wire barbed, with wire spacing at 18", 28" and 40". The property lies adjacent to Nevada Lake Wildlife Management Area.



2. Crawford Property Fence Product Evaluations (Region 3):

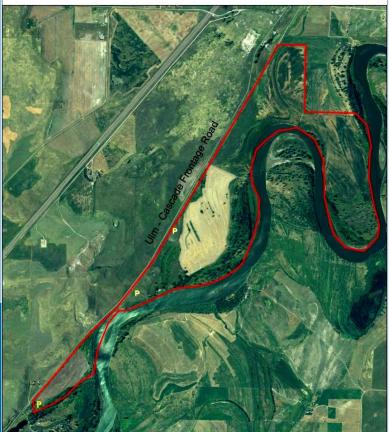
This project entails testing one new product and one fence design modification to alleviate game damage from deer, a problem that biologists often face statewide. Testing of new and innovative solutions for game damage prevention is important both to promote good MFWP and private landowner relations and to efficiently utilize game damage budgets. Gaining expertise in such problems and their solutions will benefit landowners, MFWP, and wildlife. "Plot-Savr", a name brand product designed to exclude deer from high value crops and stored feed, is being tested as



a potential solution for shortterm and long-term application for economical deer damage prevention. A new type of electric fencing, 3D fencing, is also being tested for efficacy in wildlife exclusion of key areas to prevent damage from deer.

FY13 PRIVATE LAND TECHNICAL ASSISTANCE PROJECTS - CONTINUED

Riverdale Ranch Conservation Easement Area

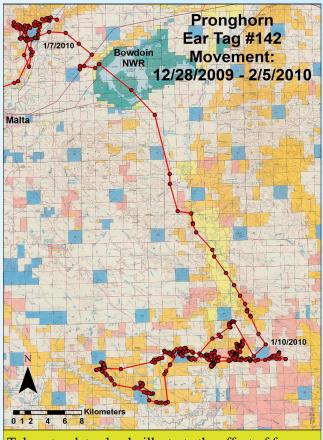


4. FWP/TNC South Phillips County pronghorn friendly fence (Region 6):

This is an ongoing cooperative project that will reduce wildlife habitat fragmentation by eliminating 22 miles of fence-associated barriers by 2014. With the primary focus on key migration areas for pronghorn, woven wire (sheep fence) will be removed in 1/8-mile sections and replaced with three strands of barbed wire and one strand of smooth wire raised at least 18 inches above the ground surface. Existing barbed wire fences will also be modified to these standards. Pronghorn research by PhD candidate Andrew Jakes was a key catalyst for this project.

3. Riverdale Ranch Conservation Easement Fence Project (Region 4):

The landowner will construct a wildlife friendly fence along the Frontage Road to replace all of the existing the woven wire fence. The entire fence is 3.25 miles long (17,160'). All but about 1,500' is woven wire with the remaining 1,500' being old 7-strand barbed wire. Additionally, several electric fence options are available if it is determined desirable to fence out cattle from riparian habitats in future years. Currently, the project includes 2.25 miles of permanent fence and about 1 mile of electric fence.



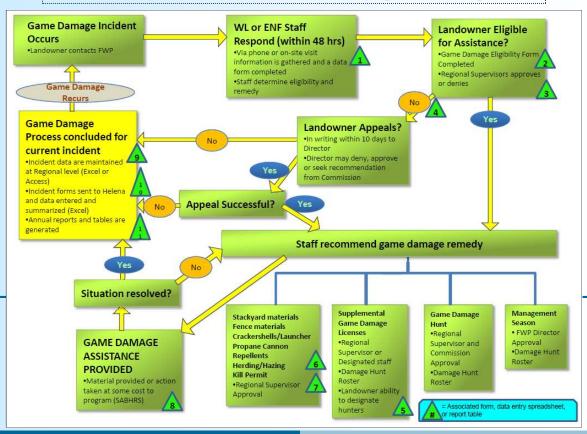
Telemetry data clearly illustrate the effect of fence barriers on pronghorn movement and migration.

FY13 PRIVATE LAND TECHNICAL ASSISTANCE PROJECTS - CONTINUED

4. Centralized Game Damage Database (HQ/Statewide): This project will produce a centralized repository for all game damage response data that are consistent and available to all stakeholders. These stakeholders include FWP wildlife biologists and managers, regional supervisors, enforcement personnel, support staff, and program administrators responsible for responding to, tracking, and reporting game damage complaints and responses. This system will allow access to these data by all of these parties, and ensure that the data are consistent among all users.

The objectives of this project are to: (1) create a centralized data storage system to hold game damage complaint, landowner eligibility, and response data; (2) create an application on the internal website that allows department staff to select and report on game damage response, as well as providing some functionality for making charts, graphs, and exporting data; and (3) create an application that allows biologists, wardens, support staff and program administrators to query data from the database for specific game damage responses for private landowners as well as providing full functionality for making graphs, tables, and exporting data for further analyses.

How well do you know FWP Game Damage process and policy?



OPTIONS FOR PREVENTING GAME DAMAGE

TWO OPTIONS THAT PROTECT STORED HAY FROM GAME <u>AND</u> WEATHER DAMAGE

Bale Blankets

Bale Blankets and Continuous Bags protect valuable hay in all weather conditions.

- Blankets and bags often come with standard warranties that mean they can be reused year after year and can make them very economical.
- 7.5 oz., 16 mil thick silver/white fabric will not rot and is engineered to withstand a wide range of climate conditions, as well as resisting tearing and ripping.

To use:

- Center the blanket on row of bales. Weave UV-resistant, high strength curtain cord over the blanket and tie down with corkscrew anchors.
- One tie-down is recommended every 4-6 feet. This method, as compared to the "piercing" method, will ensure the cover lasts for many years.

Images and information on these products were obtained from www.farmtek.com.



An FWP evaluation of a Pony Wall Building will be featured in a future technical assistance bulletin.

- To securely enclose and seal the continuous bags, use UV black cable ties that are resistant to extreme weather conditions and UV rays.
- Bale Blankets and Bags are priced per linear foot.

Hay Storage Buildings

Hay storage buildings can be ideal for storing hay and grain. They can be installed in a matter of days on any surface and are considerably less expensive than a wooden or metal building. Storing hay supply in dry, well ventilated conditions means that money will be saved by not having to contend with hay loss as a result of moisture and inclement weather conditions. Prevent hay spoilage and loss with one of many designs such as FarmTek's Pony Wall Buildings, Manure/Compost Buildings or Freestanding Buildings. Some companies offer financing options for larger hay storage buildings and barns.

Though not specifically endorsed or promoted by Fish, Wildlife and Parks, examples of these blankets and buildings can be found at http://www.farmtek.com and elsewhere on the internet.



Through the evaluation of new and ingenious products, FWP is seeking to add viable tools to its game damage and wildlife conflict resolution and prevention toolbox.

PUBLICATIONS FOR LANDOWNERS

MSU Extension Publications

In an effort to keep information available and convenient for both FWP staff and private landowners, a supply of relevant Montana State University Extension publications is maintained by the FWP Private Land Technical Assistance Program. They are available upon request and some can be downloaded for free at http://www.msuextension.org/store/

Titles available at no cost through FWP's Private Land Technical Assistance Program:

- A Procedure to Evaluate Investment in a Hay Storage Building (16 pages)
- After Wildfire: Information for landowners coping with the aftermath of wildfire¹
 (54 pages)
- Electric Fencing to Control Deer and Elk on Montana's Farms and Ranches (4 pages)
- Fencing to Protect Stored Hay from Deer and Elk (4 pages)
- Managing Montana Farm Habitat for Pheasants (4 pages)
- Rancher's Guide to Wolf Depredation (pocket-sized brochure)
- Symposia: Prescribed Livestock Grazing to Enhance Wildlife Habitat² (106 pages)

Additional topics that may be of interest can also be found on the Extension website.

Additional self-help literature is available from Montana State University Extension Service



Deer-resistant Ornamental Plants for Your Garden

by Cheryl Moore-Gough, Extension Horticulture Specialist, retired, and R.E. Gough, Ph.D., Professor of Horticulture

A listing of flowers, vines, shrubs and trees that deer don't prefer to eat.

MT199521AG Revised 12/10

¹ \$6.00 each if ordered through MSU Extension

² \$2.50 each if ordered through MSU Extension

PUBLICATIONS FOR URBAN RESIDENTS

FWP Living With Wildlife Publications

Like rural landowners, urban residents often encounter and have problems with wildlife that have become habituated to urban settings. In an effort to keep information available and convenient for both FWP staff and urban residents, the Living With Wildlife grant program funded the development and printing of a wide range of self-help literature focused on urban wildlife conflict issues. Most of these brochures are available upon request and all are downloadable from FWP's website at http://fwp.mt.gov/fishAndWildlife/livingWithWildlife/.

<u>Living With Wildlife topics available for</u> download on FWP's Webpage:

- Bats
- Beaver
- Black Bears
- Deer
- Dogs and Cats
- Ground Squirrels
- Grizzly Bears
- House Sparrows
- Magpies
- Mountain Lions
- Pigeons
- Pocket Gophers
- Porcupines
- Rabbits
- Raccoons
- Skunks
- Snakes
- Starlings
- Tree Squirrels
- Woodpeckers
- Woodrats or Packrats

Additional related resource titles:

- A Landowner's Guide to Wildlife Friendly Fences
- Don't Feed Wildlife
- Putting Out the Unwelcome Mat
- Welcoming Wildlife to Your Backyard
- Wildlife Watching Tips
- Recycling Old Signs New Bird Houses



Since 2001 the Living with Wildlife Grant Program has funded 70 successful projects that focused on preventing or solving human/wildlife conflicts in urban and suburban settings. Four final projects will be completed by June 2013.

INTEGRATING HUMAN DIMENSIONS RESEARCH INTO WILDLIFE MANAGEMENT

Selected Results from a 2011 Resident Mule Deer Hunter Preference Survey Conducted by FWP

Adapted from HD Unit Research Summary No. 32 Michael S. Lewis, Quentin Kujala, Justin Gude, and Zoe King



Following the 2010 general hunting season, the Montana Fish, Wildlife & Parks Commission requested the agency explore whether or not there was a need to update its 2001 mule deer management plan. To kick-off this effort, a survey of resident mule deer hunters was conducted to help evaluate Montana's mule deer management relative to hunting and harvest opportunities.

In late May of 2011, a survey was mailed to a randomly selected sample of 5,000 resident Deer A license holders from the 2010 general hunting season. Two weeks following the initial mailing of the survey, postcard reminders were sent to all the survey participants. Surveys were successfully delivered to a total of N=4,813 resident deer hunters. There were a total of n=1,980 survey

respondents, resulting in an overall 41 percent response rate for the resident survey. This response rate is considered to be good for a mail-back survey of this kind.

This summary presents selected overall statewide results from this survey. In addition to this summary, separate reports have been developed that provide detailed survey results for Montana as a whole and detailed survey results for seven administrative regions of Montana.

Overall, 80 percent of all the survey respondents reported they have hunted mule deer in Montana during the past five years. These resident mule deer hunters are the focus of this summary.

IMPORTANCE OF MULE DEER HUNTING IN MONTANA

Nearly two-thirds of the survey respondents indicated that mule deer hunting is "one of my most important hunting activities" or "my most important hunting activity."

PERCEPTIONS REGARDING OPPORTUNITIES TO HUNT MULE DEER IN MONTANA

On a scale from 1 (poor) to 5 (excellent), 85 percent of the survey respondents rated overall opportunities to hunt mule deer in Montana as being better than average (a score of three out of five or higher). Using the same scale, nearly 50 percent of the respondents rated opportunities to hunt large mule deer bucks in Montana as being better than average (a score of three out of five or higher). (Continued on next page)

During the 2008 hunting season, more than 27,000 mule deer bucks were estimated to have been harvested in Montana.

Selected Results from a 2011 Resident Mule Deer Hunter Preference Survey Conducted by FWP — Continued

SATISFACTION WITH CURRENT MULE DEER HUNTING REGULATIONS IN MONTANA

On a scale from 1 (very dissatisfied) to 5 (very satisfied), 77 percent of the survey respondents rated mule deer hunting regulations in Montana as being satisfactory (a score of three out of five or better). Only two percent of the respondents indicated they believe mule deer hunting regulations in Montana are "very difficult to understand". Only two percent of the respondents reported they have "often" decided NOT to go mule deer hunting in Montana during the past five years because they thought the hunting regulations were too difficult to understand.

OPINIONS REGARDING HOW RESTRICTIVE MULE DEER HUNTING REGULATIONS SHOULD BE IN MONTANA

Managing for higher numbers of mature mule deer bucks (e.g., bucks 4-5 years of age or older) may require implementing more restrictive mule deer hunting regulations. For instance, in current limited permit areas in Montana, the average drawing odds are once every four years. With this in mind, survey respondents were asked the following questions to help assess how restrictive mule deer hunting regulations should be in Montana. The numbers in red represent the percent of survey respondents who selected that choice for each of the three survey questions presented below.

Response to..."Given only ONE CHOICE, which of the following would be most favorable to you in MONTANA as a whole? (check only one)"

63.0% The opportunity to hunt mule deer bucks every year somewhere in Montana (with a *lower probability* of harvesting a mature buck)

-OR-

37.0% The opportunity to hunt mule deer bucks once every several years somewhere in Montana (with a higher probability of harvesting a mature buck)

Response to..."Given only ONE CHOICE, which of the following would be most favorable to you in the REGION of Montana where you've spent the most time hunting mule deer during the past FIVE years? (check only one)"

63.8% The opportunity to hunt mule deer bucks every year in this REGION of the state (with a lower probability of harvesting a mature buck)

-OR-

36.2% The opportunity to hunt mule deer bucks once every several years in this REGION of the state (with a *higher probability* of harvesting a mature buck)

Response to..."Given only ONE CHOICE, which of the following would be most favorable to you in the HUNTING DISTRICT where you most prefer to hunt mule deer in Montana? (check only one)" 63.3% The opportunity to hunt mule deer bucks every year in this Hunting District (with a lower probability of harvesting a mature buck)
-OR-

36.7% The opportunity to hunt mule deer bucks once every several years in this Hunting District (with a higher probability of harvesting a mature buck)

Survey results continued on next page

Selected Results from a 2011 Resident Mule Deer Hunter Preference Survey Conducted by FWP — Continued

Overall, 55 percent of the respondents selected the non-restrictive option for all three of the survey questions listed above. Thirty-three percent of the respondents selected the restrictive option for all three questions. Of note, respondents who reported that mule deer hunting isn't very important to them were more likely to select the more restrictive option. For instance, 50-53 percent of the respondents who reported that mule deer hunting isn't very important to them selected the "opportunity to hunt mule deer bucks once every several years" for the each of the three survey questions. This compares to 33-35 percent of the respondents who reported that mule deer hunting is important to them. Also of note, respondents who reported that harvesting a trophy buck is an important motivation for going mule deer hunting in Montana were more likely to select the more restrictive option. For instance, 45-46 percent of the respondents who reported that harvesting a trophy buck is important to them selected the "opportunity to hunt mule deer bucks once every several years" for the each of the three survey questions. This compares to 28-29 percent of the respondents who reported that harvesting a trophy buck is NOT important to them.

Related to the three questions listed above, respondents were also asked, "How important is it to you to be able to consistently hunt mule deer in the same place in Montana each and every year?" Fifty-seven percent of the respondents indicated this was important or very important to them, while 25 percent reported this was unimportant or very unimportant to them. Eighteen percent reported this was neither important nor unimportant to them.

OPINIONS REGARDING THE TIMING OF THE MULE DEER HUNTING SEASON IN MONTANA

Nearly two-thirds of the survey respondents "support" or "strongly support" hunting mule deer bucks in Montana during the rut (see Figure 2 below). Fourteen percent "oppose" or "strongly oppose" hunting bucks during the rut.

A strong majority of respondents (78 percent) "support" or "strongly support" the current timing of the five-week general rifle season for mule deer hunting in Montana. Only seven percent "oppose" or "strongly oppose" the current timing of the season.

INTEREST IN HARVESTING ANTLERLESS MULE DEER IN MONTANA

A little over half of the survey respondents (51 percent) reported they are "interested" or "very interested" in harvesting antlerless mule deer in Montana. Twenty-eight percent reported they are "disinterested" or "very disinterested" in harvesting antlerless mule deer in

Montana. Twenty-one percent were "neither interested or disinterested".



Survey results continued on next page

Selected Results from a 2011 Resident Mule Deer Hunter Preference Survey Conducted by FWP — Continued

REASONS FOR HUNTING MULE DEER IN MONTANA

Survey participants were asked to rate the importance of ten different potential reasons for going mule deer hunting in Montana. Each of these reasons are listed below along with the percent of respondents who rated each reason as being "important" or "very important".

- 1. To enjoy nature and outdoors (91%).
- 2. To be with friends who have similar interests (77%).
- 3. To do something with my family (75%).
- 4. To get venison for eating (69%).
- 5. To feel the exhilaration of the hunt (69%).
- 6. To experience solitude (67%).

- 7. To develop my skills and abilities (64%).
- 8. To test my hunting skills (64%).
- 9. To feel a sense of accomplishment (59%).
- 10. To harvest a trophy buck (47%).

BARRIERS TO OBTAINING DESIRED MULE DEER HUNTING EXPERIENCES IN MONTANA

Survey participants were asked, "What is the single greatest BARRIER to you gaining the type of mule deer hunting experience you're looking for in Montana?" The most frequently listed barriers were as follows:

- Poor access. Concerns about access to hunt mule deer (e.g., poor access to privately owned lands that have good hunting, locked gates, closed roads, leased up lands, etc.).
- Time and money. The costs of hunting.
- Physical limitations (e.g., getting older, disabled, sick, injury, etc.).
- Not enough big bucks. Poor opportunities to harvest a mature buck.
- Too many other hunters. Competition from other hunters.
- Too many predators. Competition from predators.

DISCUSSION

Results from this survey confirm that mule deer hunting is very important to Montanans. Overall, survey respondents were generally satisfied with the current mule deer hunting regulations and the timing of the current mule deer seasons in Montana. However, many resident mule deer hunters are concerned about a variety of hunting access related issues. Despite these concerns, respondent reported being generally satisfied with overall mule deer hunting opportunities in Montana. Furthermore, nearly half of the respondents rated opportunities to hunt large mule deer bucks in the state as being better than average.

Each year, Montana Fish, Wildlife & Parks hears from a segment of the mule deer hunting public that more emphasis needs to be placed on trophy mule deer hunting in the state. Surprisingly, trophy hunting was the least important reason expressed by survey respondents for hunting mule deer in Montana.

Correspondingly, about two-thirds of the survey respondents prefer less restrictive mule deer hunting regulations across the state compared to more restrictive regulations that limit opportunity. Of note, these numbers provide support for current mule deer management in the state where about three-quarters of the hunting districts in Montana do NOT limit buck hunting opportunity.

Mule deer are truly one of Montana's premier big game species. Results from this survey will be important information to use in the consideration of future management decisions for this significant game species that is so highly prized by Montana hunters.

MEDIA REVIEW

Reprinted with permission from: Human–Wildlife Interactions 6(1):178, Spring 2012

A Pickup Load of Pigs: The Feral Swine Pandemic

PATRICK JACKSON, Department of Wildland Resources, 5230 Old Main Hill, Utah State University, Logan, UT 84322 USA *pat.jackson@aggiemail.usu.edu*

This 8-minute documentary presents an overview of the problem of feral swine (Susscrofa) in North America. Feral swine are quickly becoming the second-most pervasive species of wildlife after white-tailed deer (Odocoileus virginianus), according to this short documentary. A Pickup Load of Pigs: The Feral Swine Pandemic, produced by Mississippi State University Extension Services, can be viewed on the Internet (<www.YouTube.com>) under "A Pickup Load of Pigs." A dvd version of the video is available for \$5 on-line at <http://:www.wildpiginfo.msstate.edu>. The video gives a brief natural history of feral swine, an account of the damage caused by the animals, and common methods used to control them. Several experts were interviewed for the film, including biologists, veterinarians, and researchers, as well as farmers and extension agents.

The rapid spread of feral swine is in part due to the fact that they are the "ultimate generalists," according to the program. Moreover, a feral swine sow can produce 3 litt ers in 14months, depending on resources and population density. Feral swine, however, are not spreading by reproduction alone. Dr. Joe Corn, with the National Feral Swine Mapping System, explained that humans play a role in establishing distant populations by transporting swine for the benefit of hunters. Feral swine threaten natural resources, public health, and agricultural resources, causing extensive environmental damage and economic problems. A Pickup Load of Pigs presents an alarming account of the damage that feral swine cause to farmers, catt lemen, and other landowners. A Pickup Load of Pigs impresses on viewers the difficulty of controlling feral swine populations. The problem is considered a pandemic, and many methods are not effective enough to make an impact, according to Dr. Mayer. Sport hunting puts only a dent in the population by removing approximately 8 to 50% of the pests. Control of feral swine is ultimately the landowner's responsibility, but it comes at a great expense of time and money. Landowners need to be patient and learn about the swine's habits before expecting to have success. Feral swine management requires a removal effort over an extended period, not just one weekend. Buddy Goatcher, a contaminants specialist for the U.S. Fish and Wildlife Service, said that he "loves the European wild boar; it is a magnificent animal, but only in the context of the ecosystem in which it evolved." A Pickup Load of Pigs: The Feral Swine Pandemic is informative and entertaining. This video is an eye-opener for the general public, as well as land managers.

PATRICK JACKSON is a graduate student at Utah State University (USU). He studies the relationship between coyotes and the availability of food. Before attending USU, he worked in Hawaii performing vertebrate pest removal, including feral swine.

DID YOU KNOW THAT FERAL PIGS OCCUR WITHIN WALLOWA NATIONAL FOREST, EAST OF LA GRANDE, OREGON?

THIS PUTS THEM ONLY ABOUT 140 LINEAR MILES FROM MONTANA'S WEST BORDER OF THE BITTERROOT NATIONAL FOREST!



HUMAN-WILDLIFE INTERACTIONS FEATURED ABSTRACT

Effectiveness of deer repellents in Connecticut

JEFFREY S. WARD, Department of Forestry and Horticulture, Connecticut Agricultural Experiment Station, P.O. Box 1106, 123 Huntington Street, New Haven, CT 06504-1106, USA jeffrey.ward@ct.gov.

SCOTT C. WILLIAMS, Department of Forestry and Horticulture, Connecticut Agricultural Experiment Station, P.O. Box 1106, 123 Huntington Street, New Haven, CT 06504-1106, USA

Abstract: Browsing by overabundant herds of white-tailed deer (Odocoileus virginianus) can cause significant economic damage to agricultural crops and landscape plantings. In many instances, for both commercial growers and homeowners, commercially available repellents may be an appealing alternative to physical exclusion and lethal control of animals. We tested 10 different commercially-available repellents (Chew-Not®, Deer Off®, Deer-Away® Big Game Repellent, Plantskydd®, Bobbex®, Liquid Fence®, Deer Solution®, Hinder®, Repellex® systemic tablets, and coyote urine) on yews (Taxus cuspidata Densiformis) at 2 different locations in Connecticut. The study included both positive (fence) and negative (no treatment) controls. We planted yews in 2 blocks at each location in the spring of 2006; each block had 12 groups of 6 yews. We randomly assigned one of the 12 treatments to each group of yews within each block. We applied repellents based on manufacturers' label recommendations for the 2006 and 2007 growing seasons and recorded application costs. We derived a protection index based on plant size and dry needle weights at the end of the 2007 growing season. In general, repellents that required more frequent application performed better. Bobbex® ranked highest, but was the most expensive repellent treatment. Hinder® performed nearly as well at a fraction of the cost. Yews protected by Repellex®, Deer Solution®, coyote urine, and Plantskydd® were the same size as unprotected controls at both sites and did not have significantly more needles. No repellents prevented 100% of browse damage. The choice of repellent usage is a trade-off among effectiveness, cost, ability to follow recommended reapplication interval, and plant to be protected.

Key words: conditioned aversion, Connecticut, human-wildlife conflicts, *Odocoileus virginianus*, repellent, *Taxus cuspidata* Densiformis, white-tailed deer, yew

Human-Wildlife Interactions 4(1):56-66, Spring 2010 (Abstract reprinted with permission — full article available upon request)



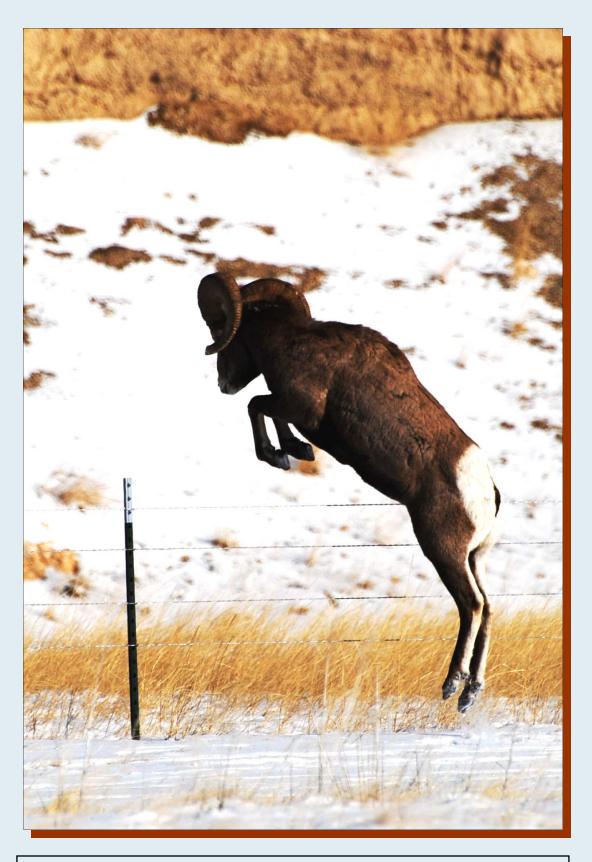












Bighorn sheep photos courtesy of Dave Dziak, MFWP.



FWP'S GAME DAMAGE PROGRAM PROVIDES
ASSISTANCE TO PRIVATE LANDOWNERS WHO ALLOW PUBLIC HUNTING

From 2000 through 2011, nearly \$4 million in hunting license dollars were spent on man-power and materials to help address eligible game damage complaints in Montana.

To request hard copies of this bulletin, or documents mentioned in the bulletin, contact Joe Weigand at 444-3065 or joweigand@mt.gov.